

# **SPECIFICATIONS FOR EXCAVATION ON UTAH DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY**

## **PURPOSE OF SPECIFICATIONS**

Provide uniform guidance for the Regions Permit Offices when excavations, within State of Utah Highway right-of-way are permitted.

## **SCOPE OF SPECIFICATION**

These specifications were implemented to cover any construction company, utility company or political subdivision for the construction maintenance, repair, operation or use of any gas, oil, telephone, power, sewer, water, communication and similar facilities within a State right-of-way.

## **EMERGENCY EXCAVATIONS**

*Information covered in the Accommodation Manual Section 5.11.*

## **TRANSFER OF WORK**

*Information covered in the Accommodation Manual Section 4.2.*

## **PROTECTION OF PUBLIC DURING CONSTRUCTION**

- A) The Contractor shall comply with all federal, state and local laws, ordinances, including the current edition of the U.S. Department of Transportation Federal Highway Administration's "Manual on Uniform Traffic Control Devices" (MUTCD)
- B) The utility company, construction company, political subdivision or their contractor will include a traffic control plan in their application for a permit. This plan will define the limitations on contractor vehicle parking and materials storage according to the Utah Department of Transportation's Standard Drawings on temporary traffic control, unless protected by curb and gutter or other approved barrier. Access control during construction will be described as well as protection of the public from any open excavation or other hazards. The traffic control plan must be in conformance with the MUTCD.
- C) Construction operations will be conducted so that a minimum amount of interference or interruption of highway traffic results. Inconvenience to residents and businesses must be minimized. Safe and proper connections with all intersecting public or private roads or driveways will be maintained at all times. These roads shall be kept in usable condition, except when approval is obtained for minimum closure from the governing official having jurisdiction over the street, or the property owner of a private driveway.
- D) The contractor will provide, erect and maintain all necessary barricades, warning lights, signals and signs. Also, watch persons and flaggers will be provided to insure all reasonable and necessary precautions for the protection of the work zone and the safety of the public.

- E) Effective barricades must protect highways closed to traffic. Suitable warning signs, illuminated at night, or other approved means will be provided to mark the places where surfacing ends, is not compacted or there are other obstructions. All lights for this purpose must be kept illuminated from sunset to sunrise. The contractor will erect warning signs in advance of any place on the project where operations interfere with the use of the road by the public. Such warning signs shall be constructed and erected in accordance with the plans. Signs not required during non-work periods must be moved or covered. All signs, lighting, flagging and traffic protection for the work zone shall conform to the requirements of the MUTCD.
- F) Except in cases of emergency, full road closures may not be permitted unless authorized in advance by the UDOT Region/District Director or his authorized representative. Emergency services (e.g., police, fire and ambulance), media, and UDOT's Public Involvement Coordinator must be advised of the closure and proposed detour routes by the permit holder.

### **METHODS OF CROSSING**

Jacking or boring is preferred to open trench excavation, and shall be required in all cases of utility facilities crossing under and not parallel to paved surfaces, unless this is not feasible due to soil conditions, other utilities, substructures, or other conditions. Jetting by means of water or compressed air will not be permitted.

### **REMOVAL OF PAVEMENT, SIDEWALKS, CURBS, ETC.**

The pavement, sidewalk, curb and gutter, driveway, etc. will be cut vertically along the lines forming the trench that adjoining pavement is not damaged. The portion to be removed will be broken up in a manner that does not cause damage to the pavement outside the limits of the trench. Any pavement damaged by operations outside the limits of the trench will be replaced. Large broken pavement material must immediately be removed from the work site.

### **REPAIRS**

Only licensed contractors, utility companies or political subdivisions with qualified and skilled workers will make repairs to UDOT roads.

### **FLOWABLE FILL**

Unless otherwise agreed to by prior written agreement in all urban areas and on rural highways with high volume traffic as determined by UDOT, flowable fill will be used for backfill under paved areas and will be in conformance with the requirements of "Flowable Fill" of the State of Utah "Standard Specifications for Road and Bridge Construction" Current edition.

Flowable fill shall be discharged from the ready mix truck by safe and reasonable means into the trench to be filled. The fill must be brought up to the bottom of the surface course and shall be finished to provide a uniform surface.

Where flowable is used for backfill the excavated materials will be disposed of by the utility in an area outside of the highway right-of-way satisfactory to UDOT's Region Permits Officer or Inspector. In rural areas or locations when its use would be impractical, flowable fill may not be required. In such cases backfill shall be in conformance with the requirements of the Borrow, Granular Borrow and Granular Backfill Borrow, in the current edition of the State of Utah "Standard Specifications for Road and Bridge Construction".

### **COMPACTION OF BACKFILL**

Materials for backfill must be free of large broken concrete, peat, topsoil, loam, decomposed vegetable matter and similar materials obtained from excavation, and will be removed from the site prior to beginning of backfilling. All backfill will be placed in layers not over 6 inches, loose measure, in thickness. Material for backfilling must be properly moistened or watered to the correct moisture content to ensure proper compaction. Compaction must be obtained by mechanical rollers, tampers or other approved means. Jetting or internal vibrating methods of compacting sand fill or similar methods of compacting sand or similar granular, free draining materials will be permitted. No frozen material can be used for backfill under paved surfaces. The UDOT Region/District Director or his authorized representative will require that the (dry) density of the backfill under pavements, sidewalks, curbs or other structures shall not be less than 96 percent of the laboratory standard minimum soil (dry) density as determined by compaction test made in conformity with the current edition of the AASHTO (Standard Specifications for Highway Materials Methods of Sampling and Testing). The UDOT Region Permits Officer will require the density of the backfill on road shoulders to be 90 percent, or more, by the same standards.

### **RESTORATION OF SURFACES**

All street surfacing, curbs, gutters, sidewalks, driveways, or other hard surfaces that are removed in the performance of the work will be restored in kind by the contractor in accordance with the specifications. Deviations of more than 1/4 inch between old and new work or within new construction will be corrected. Such measurement will be made from 10 feet, minimum length straight edge.

### **PROTECTION OF PAVED SURFACES**

Track equipment must use rubber cleats or paving pads when operating on or crossing paved surfaces.

### **TRACKING**

Before entering a State Highway, the operator of a vehicle carrying dirt, sand, gravel, rock fragments, pebbles, crushed base, aggregate, or any other similar material will be required to remove any loose material on any portion of the vehicle not designed to carry the material.

### **TIME LIMIT**

The contractor will provide a paved surface on all locations remaining overnight at his own expense for all pavement removed or damaged due to excavation, unless additional time is granted in writing by the UDOT Region Permits Officer.

If weather conditions do not permit immediate placing of pavement, a temporary 6-inch cold mulch shall be placed. When weather conditions are favorable, the temporary pavement will be removed and replaced with permanent pavement. If the gravel is fouled with clay or other materials, the entire surfacing will be removed and replaced with new gravel surfacing material. The repairs to pavement or surface will include pavements, which have been damaged with construction equipment. If the utility fails to restore the roadbed to a condition satisfactory, the Utah Department of Transportation shall restore the roadbed to satisfactory condition. The utility shall be charged the cost of the restoration.

## **RESTORING CONCRETE, OR ASPHALT SURFACES**

1. Temporary Surface – Where trenches are excavated, in paved areas and the surface is replaced overnight with a temporary 6-inch cold mulch surface, flowable fill will be required up to 6-inches from the surface. Where flowable fill cannot be used the gravel below the cold mulch shall be placed deep enough to provide 12-inches of gravel.
  - a. Gravel will be placed in the trench at the time it is back-filled. The temporary cold mulch surface shall be maintained by rolling, adding cold mulch, etc., to maintain a safe, uniform surface until the final surface is placed. Excess material shall be removed immediately.
  - b. Material for use on gravel surfaces will be obtained from sound, tough durable gravel or rock in accordance with the current edition of UDOT Standard Specifications for Granular Borrow.
2. Asphaltic Concrete Surface – The sub-base material and exposed edges of existing pavement shall be primed with a tack coat material, current edition of the UDOT Standard Specifications for Tack Coat. Hot mix asphalt meeting the requirements of UDOT Standard Specifications for Hot Mix Asphalt will be used. The thickness will be equal to the adjacent surface or 6 inches minimum. On trenches crossing a highway, a Plant Mix Seal Coat will be applied with a minimum width of 5 feet on either side of the excavation. If longitudinal trench excavation is permitted under a paved road, a Plant Mix Seal Coat, meeting the requirements of the current edition of UDOT Standard Specifications For Road and Bridge Construction will be applied to a minimum width of 5 feet each side of the trench or to the edge of the traveled lane on either side of the trench. If the trench is located in the shoulder area, a Plant Mix Seal Coat will be placed from the edge of the traveled way to the outside edge of the shoulder. An alternative method will be acceptable in cases where the asphalt is cut to straight uniform lines. This method will use under lap joints and tack coat overlapping road in place of seal coat. Minimum thickness of asphalt patch will be 5 inches when this method is used. Materials and methods will conform to Road Mix Asphalt Surface Course the current UDOT Standard Specifications for Road and Bridge Construction For Road and Bridge Construction.

3. CONCRETE SURFACE – The subbase will be pre-wetted immediately prior to placing the concrete. Joints and surfaces will be made to match the original surfaces. The thickness of concrete will be equal to the adjacent concrete. Concrete pavement will be replaced with full panel replacement as required in the current UDOT Standard Drawings, “Concrete Pavement details for Urban and Interstate, and Urban “Concrete Pavement Details”. Concrete will meet and be placed in accordance with “Portland Concrete Cement Pavement of the current edition of the UDOT Standard Specifications for Road and Bridge Construction.
4. GRAVEL SURFACES – Trenches excavated through gravel surfaced areas such as gravel roads, gravel shoulders and unpaved driveways will have the gravel surface restored to a minimum of 1-inch more than the thickness of existing gravel.

### **CLEANUP**

At the completion of work all equipment, barricades and other items will be removed from the right of way. All excess material will be removed. Adjacent borrow pits and road shoulders used for storage of excavated material will be smoothed and graded to their original contour.

### **SEEDING**

Any plant growth within the highway right-of-way, that is disturbed or removed by the utility construction operations, will be restored by him through seeding or replanting as directed by the UDOT Region Permit.

### **RECORDS**

Construction plan drawings or sketches will be submitted before proposed work will be approved. Construction revisions will be documented with as-constructed plans. The proposed installation will be tied by survey to the nearest permanent-type marker, such as right-of-way, street intersections, section corners, U.S. Geological Survey and Coast and Geodetic Triangulation Stations. Ties to highway stations when survey work has been completed will also be accepted. The tolerance of error in these ties cannot exceed one minute in direction and 1 foot in distance. Any field changes made during construction will be noted and corrected prints furnished the UDOT Region Permits Officer within twelve calendar days after completion of construction.

### **LIABILITY**

Any individual or organization performing work within the state highway right-of-way will hold the Utah Department of Transportation and its employees, and the owners and employees of any other utility company lawfully within said right-of-way, free and harmless from all damages caused through such operations. Any defective workmanship discovered within three years of the completion of the job will be immediately corrected.